



Duke University Marine Laboratory

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Fifty Years of Excellence in Teaching and Research

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October 16, 1990

Dr. R. J. Zahuranec
Scientific Officer
Office of Naval Research
Code 1122B
800 North Quincy Street
Arlington, VA 22217-5000

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Dear Dr. Zahuranec:

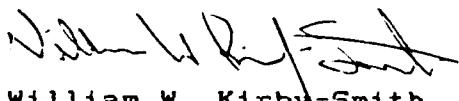
Attached is a Technical Progress Report for the ONR High School Internship Program for the summer of 1990, Grant No. N00014-87-G-0267.

As in previous years, this year's program ran smoothly and was a benefit to both the participants as well as our laboratory.

I would like you to know that one of our interns, Zoey Forward, was also winner of the U.S. Navy Distinguished Achievement Award in the N.C. District Science Fair in Wilmington, N.C. in the spring of this year.

If you need additional information, please let me know.

Sincerely,


William W. Kirby-Smith
Coordinator, ONR High School
Internship Program

WWK-S:11-w

Enclosure

cc: Grants Administrator, ONR Resident Representative (Atlanta)
Defense Technical Information Center (Alexandria)

Technical Progress Report
to the
Office of Naval Research
on the

ONR High School Internship Program - 1990
Duke University Marine Laboratory
Contract No. N00014-87-G-0267

INTRODUCTION

The Duke University Marine Laboratory, with funding from the Office of Naval Research, conducts a ten-week summer internship program for rising seniors from three high schools: East Carteret High School, West Carteret High School and the North Carolina School of Science and Mathematics. The purpose of the program is to expose students to active, on-going research programs so that they may be able to understand what is involved in a career in marine science research.

Groups of interns are preselected by a committee of science teachers at each school and the applications are sent to the Duke University Marine Laboratory (DUML). At DUML, applications are reviewed and rated by a panel of three scientists: one from NOAA-NMFS, one from the University of North Carolina Institute of Marine Sciences, and one from DUML. Two interns are selected from each of the three schools. Interns are matched with research faculty at DUML who then contact the interns in the spring to begin the process of developing a research topic.

Interns arrive at DUML in early-mid-June to begin an intensive 10-week exposure to research under the supervision of a faculty member. The interns develop a project topic and a research plan, carry out the research, including data analysis, write a technical report and give an oral presentation of their research. If appropriate, the interns are encouraged to present their work with their mentor at a scientific meeting and/or develop a journal article.

The exposure to such an active research environment is hoped to encourage students at an early age to consider careers in science, particularly marine science.

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THE 1990 PROGRAM

Advertising for the internship program for the summer of 1990 began in early December 1989. In February 1990, the three high schools provided a pool of 12 applicants (7 from West Carteret, 3 from East Carteret, 2 from NC School of Science and Mathematics). A selection committee consisting of Drs. Susan Huntsman (NOAA-NMFS), Jan Kohlmeyer (UNC Institute of Marine Sciences), and Joseph Ustach (DUML) reviewed the applications. There were two interns selected from East Carteret High School, two from West Carteret High School and two from the North Carolina School of Science and Mathematics.

Because of a difference in the schedules of NCSSM and the Carteret County high schools, the program began on June 4 and concluded on August 10 for NCSSM interns and began on June 11 and concluded on August 17 for Carteret County high school interns. The oral presentations by all interns were given on August 1 to accommodate the difference in schedules. Information sheets for each intern are attached which provide biographical information as well as the name of the mentor, and project title/major tasks performed.

Prepared by: William W. Kirby-Smith, Coordinator
Office of Naval Research High School Internship
Program
Duke University Marine Laboratory
Beaufort, NC 28516
(919) 728-2111



Dist. "A" per telecon Dr. B. Zahuranec.
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Attachment sheet	
NTIS Classification	
DTIC TAB	
Distribution	
JUL 1990	
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Duke University Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH APPRENTICE

Year: 1990

Dates: 06/11-08/17

Name: John Brent Carlson

Address: 1105 Ann Street
Beaufort, NC 28516

Phone: 919-728-7038

Address (School, '90-'91): East Carteret High School
Beaufort, NC 28516

Phone: 919-728-3514

Last Grade Completed: Junior

Type of School: Public

Sex: Male

Race/Ethnicity: White

Installation: Duke University Marine Laboratory
Beaufort, NC 28516
(919) 728-2111

Phone:

Mentor: Dr. Joseph Ustach
Title: Research Staff
Principal Discipline
of Research: Marsh ecology

Major Tasks Performed: Study of mollusks in the South
River estuarine system

Duke University Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH APPRENTICE

Year: 1990

Dates: 06/04-08/10

Name:	Yukiyo (Julie) Kasama Cheu
Address:	4205 Boxwood Road Raleigh, NC 27612
Phone:	919-781-9073
Address (School, '90-'91):	NC School of Science & Mathematics P.O. Box 2418 1219 Broad Street Durham, NC 27705
Phone:	919-286-3366
Last Grade Completed:	Junior
Type of School:	Public
Sex:	Female
Race/Ethnicity:	Asian
Installation:	Duke University Marine Laboratory Beaufort, NC 28516
Phone:	(919) 728-2111
Mentor:	Dr. Daniel Rittschof
Title:	Assistant Professor of Zoology
Principal Discipline of Research:	Chemical ecology
Major Tasks Performed:	Study of chemical and behavioral ecology of hermit crabs

Duke University Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH APPRENTICE

Year: 1990

Dates: 06/04-08/10

Name: Sharon Sharn Chow

Address: 8849 Wildwood Links
Raleigh, NC 27613

Phone: 919-870-8516

Address (School, '90-'91): NC School of Science & Mathematics
P.O. Box 2418
1219 Broad Street
Durham, NC 27705

Phone: 919-286-3366

Last Grade Completed: Junior

Type of School: Public

Sex: Female

Race/Ethnicity: Asian

Installation: Duke University Marine Laboratory
Beaufort, NC 28516
(919) 728-2111

Phone:

Mentor: Dr. Anthony Clare

Title: Research Associate

Principal Discipline
of Research: Invertebrate biology

Major Tasks Performed: Studies of the hatching substances
in Balanus amphitrite; extraction
and purification of the hatching
substance

Duke University Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH APPRENTICE

Year: 1990

Dates: 06/11-08/17

Name: Zoey Allegra Forward

Address: 414 Ann Street
Beaufort, NC 28516

Phone: 919-728-2633

Address (School, '90-'91): East Carteret High School
Beaufort, NC 28516

Phone: 919-728-3514

Last Grade Completed: Junior

Type of School: Public

Sex: Female

Race/Ethnicity: White

Installation: Duke University Marine Laboratory
Beaufort, NC 28516
(919) 728-2111

Mentor: Dr. William W. Kirby-Smith
Title: Research Associate Professor
Principal Discipline
of Research: Marine ecology

Major Tasks Performed: A study of the sediments in various
South River creeks; comparison of
creeks which are used to drain the
farm to creeks that drain the
forest

Duke University Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH APPRENTICE

Year: 1990

Dates: 06/11-08/17

Name:	Elizabeth Anne Oliver
Address:	95 Holly Court Morehead City, NC 28557
Phone:	919-726-8177
Address (School, '90-'91):	West Carteret High School Morehead City, NC 28557
Phone:	919-726-1176
Last Grade Completed:	Junior
Type of School:	Public
Sex:	Female
Race/Ethnicity:	White
Installation:	Duke University Marine Laboratory Beaufort, NC 28516
Phone:	(919) 728-2111
Mentor:	Dr. Richard B. Forward
Title:	Professor of Zoology
Principal Discipline of Research:	Physiology of marine animals
Major Tasks Performed:	Study of crustacean larval biology

Duke University Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH APPRENTICE

Year: 1990

Dates: 06/11-08/17

Name: Susan Dianne Talley

Address: 4003 Leslie Lane
Emerald Isle, NC 28594

Phone: 919-354-2718

Address (School, '90-'91): West Carteret High School
Morehead City, NC 28557

Phone: 919-726-1176

Last Grade Completed: Junior

Type of School: Public

Sex: Female

Race/Ethnicity: White

Installation: Duke University Marine Laboratory
Beaufort, NC 28516

Phone: (919) 728-2111

Mentor: Mr. Michael Kingston

Title: Graduate student

Principal Discipline
of Research: Benthic microalgae

Major Tasks Performed: Effects of groundwater flow on
microalgal patchiness

Duke University Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH MENTOR

Year: 1990
Dates: 06/04-08/10

Name: Anthony Clare
Installation: Duke University Marine Laboratory
Beaufort, NC 28516
Phone: (919) 728-2111
Sex: Male
Race/Ethnicity: White
Highest Degree Held: Ph.D.
Principal Field of Research: Invertebrate biology
Number of Years of Mentorship: 1
Number of Apprentices this Year (1990): 1

Duke University Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH MENTOR

Year: 1990
Dates: 06/11-08/17

Name: Richard B. Forward, Jr.
Installation: Duke University Marine Laboratory
Beaufort, NC 28516
Phone: (919) 728-2111
Sex: Male
Race/Ethnicity: White
Highest Degree Held: Ph.D.
Principal Field of Research: Physiology of marine animals
Number of Years of Mentorship: 4
Number of Apprentices this Year (1990): 1

Duke University Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH MENTOR

Year: 1990

Dates: 06/11-08/17

Name: Michael B. Kingston

Installation: Duke University Marine Laboratory
Beaufort, NC 28516

Phone: (919) 728-2111

Sex: Male

Race/Ethnicity: White

Highest Degree Held: M.S.

Principal Field of
Research: Benthic microalgae

Number of Years of
Mentorship: 1

Number of Apprentices
this Year (1990): 1

Duke University Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH MENTOR

Year: 1990

Dates: 06/11-08/17

Name: William W. Kirby-Smith

Installation: Duke University Marine Laboratory
Beaufort, NC 28516

Phone: (919) 728-2111

Sex: Male

Race/Ethnicity: White

Highest Degree Held: Ph.D.

Principal Field of
Research: Marine ecology

Number of Years of
Mentorship: 7

Number of Apprentices
this Year (1990): 1

Duke University Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH MENTOR

Year: 1990
Dates: 06/04-08/10

Name:	Daniel Rittschof
Installation:	Duke University Marine Laboratory Beaufort, NC 28516
Phone:	(919) 728-2111
Sex:	Male
Race/Ethnicity:	White
Highest Degree Held:	Ph.D.
Principal Field of Research:	Chemical ecology
Number of Years of Mentorship:	7
Number of Apprentices this Year (1990):	1

Duke University Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH MENTOR

Year: 1990

Dates: 06/11-08/17

Name: Joseph Ustach

Installation: Duke University Marine Laboratory
Beaufort, NC 28516

Phone: (919) 728-2111

Sex: Male

Race/Ethnicity: White

Highest Degree Held: Ph.D.

Principal Field of
Research: Marsh ecology

Number of Years of
Mentorship: 3

Number of Apprentices
this Year (1990): 1